

CLAIMS

What is claimed is:

1. An illumination device, comprising:

a shell comprising a plurality of sides, wherein the device can be positioned upon a
5 surface or attached or suspended at any of the plurality of sides; and

at least one light-emitting device within the shell, wherein when the device is positioned
upon a surface or attached or suspended at any of the plurality of sides of the shell, light from the
at least one light-emitting device emits through each of the plurality of sides of the shell.

10 2. The device of claim 1, wherein the shell comprises a top half coupled to a bottom
half.

3. The device of claim 2, wherein the top half and the bottom half are symmetrical.

15 4. The device of claim 1, wherein the shell comprises a plurality of primary ribs for
providing rigidity.

5. The device of claim 4, wherein the shell further comprises a plurality of secondary
ribs.

20 6. The device of claim 1, wherein the shell comprises a liquid or gel or solid material
within the shell.

7. The device of claim 1, wherein the shell comprises at least one hole, wherein at least one electrical contact can reside within the at least one hole.

8. The device of claim 1, wherein the shell comprises at least one notch for engaging a charger, wherein at least one electrical contact can reside within the at least one notch.

9. The device of claim 8, wherein the device may automatically turn on when the device is disengaged from the charger.

10. The device of claim 1, wherein the shell comprises at least one notch or pocket for engaging a clip, wherein the shell can be positioned upon the surface or attached or suspended utilizing the clip.

11. The device of claim 1, further comprising a loop coupled to the shell, wherein the device can be suspended or attached or positioned utilizing the loop.

12. The device of claim 1, further comprising a circuit board within the shell, wherein the at least one light-emitting device is coupled to the circuit board.

13. The device of claim 1, further comprising an energy source within the shell.

14. The device of claim 13, wherein the energy source comprises one or more of the

group consisting of:

a non-rechargeable power source;

a rechargeable power source;

at least one solar cell; and

5 an inductive power source.

15. The device of claim 13, further comprising at least one contact capable of forming an electrical connection between the energy source and a charger.

10 16. The device of claim 15, wherein the at least one contact comprises an indentation about its circumference, wherein an o-ring can reside within the indentation.

17. The device of claim 15, wherein the charger comprises:

a circuit board;

15 at least one electrode; and

a guide, wherein a notch in the shell engages the guide, wherein when the notch engages the guide, the at least one electrode forms the electrical connection between the circuit board and the energy source.

20 18. The device of claim 17, wherein the at least one electrode comprises a spring.

19. The device of claim 15, wherein the charger comprises:

a first arm and a second arm;

a region coupling the first and second arms, wherein the region flexes when a first end of the first arm and a first end of the second arm are moved toward each other;

a first contact at a second end of the first arm distal to the first end of the first arm; and

5 a second contact at a second end of the second arm distal to the first end of the second arm, wherein the first and second contacts form the electrical connection between the charger and the energy source.

20. The device of claim 19, wherein the charger further comprises:

10 a first grip at the first end of the first arm; and

a second grip at the first end of the second arm, wherein the first and second grips facilitate the moving of the first ends of the first and second arms toward each other.

21. The device of claim 19, wherein the charger further comprises:

15 teeth at the second ends of the first and second arms for engaging pockets in the shell.

22. The device of claim 19, wherein the charger further comprises:

a magnet functioning as a switch to turn the device on and off.

20 23. The device of claim 1, further comprising an energy source external to the shell.

24. The device of claim 1, further comprising a communication port for transmitting a

signal from the device and for receiving a signal from outside the device.

25. The device of claim 24, wherein a signal programming a pattern of light emission is received by the device utilizing the communication port.

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26. The device of claim 24, wherein a signal programming the device in synchronization or cooperation with other devices in a network is received or sent by the device utilizing the communication port.

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27. The device of claim 24, wherein the device receives a signal at its communication port to turn on or off.

28. The device of claim 24, further comprising signal communication circuitry external to the device and coupled to the communication port.

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29. The device of claim 1, further comprising an outer layer residing outside of the shell.

30. The device of claim 29, wherein the outer layer is coupled to the shell.

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31. The device of claim 29, wherein the outer layer seals the shell.

32. The device of claim 29, wherein the outer layer comprises at least one window, wherein the at least one light-emitting device emits light through the at least one window.

33. The device of claim 29, wherein the light from the at least one light-emitting device emits light through an optically transmissive outer layer.

34. The device of claim 29, wherein the outer layer is formed by an injection mold process.

35. The device of claim 29, further comprising a loop coupled to the outer layer, wherein the device can be suspended or attached or positioned utilizing the loop.

36. The device of claim 1, wherein the at least one light-emitting device comprises one or more of the group consisting of:

a light-emitting diode (LED);

a laser source;

a fluorescent tube;

a strobe light;

an incandescent bulb;

a waveguide; and

a surface light emitter.

37. The device of claim 1, further comprising a monitoring mechanism for adjusting an intensity of the at least one light-emitting device based upon an intensity of ambient light.

38. The device of claim 1, wherein the light comprises infrared light visible with night vision equipment.

39. The device of claim 1, wherein the device is utilized as a location or target marker.

40. The device of claim 1, wherein the device is utilized to illuminate an area surrounding the device.

41. The device of claim 1, wherein the device is utilized as a signal emitter.

42. The device of claim 1, wherein the device is utilized in traffic safety or control.

43. The device of claim 1, wherein the device is utilized as firefighter beacons.

44. The device of claim 1, wherein the device is utilized as a landing zone marker.

45. The device of claim 1, wherein the device is utilized underwater.

46. An illumination device, comprising:

a shell comprising a plurality of sides;

a loop coupled to the shell, wherein the device can be suspended utilizing the loop; and

at least one light-emitting device within the shell, wherein when the device is positioned

upon a surface or attached or suspended utilizing the loop, light from the at least one light-emitting device emits through each of the plurality of sides of the shell.

47. The device of claim 46, further comprising an outer layer coupled to outside of the shell, wherein the loop is coupled to the outer layer.

48. A network, comprising:

a first communication device comprising a first communication port; and

a second communication device comprising a second communication port, wherein the first and second communication devices communicate through the first and second

communication ports, wherein either the first or second communication devices comprises:

a shell comprising a plurality of sides, wherein the shell can be positioned upon a surface or attached or suspended at any of the plurality of sides, and

at least one light-emitting device within the shell, wherein when the device is positioned upon a surface or attached or suspended at any of the plurality of sides of the shell, light from the at least one light-emitting device emits through each of the plurality of sides of the shell.

49. The network of claim 48, wherein a signal programming a pattern of light emission is received by the first and second communication devices utilizing the first and second communication ports.

5 50. The network of claim 48, wherein a signal programming the first and second communication devices to be in synchronization or cooperation with each other is received by the first and second communication devices utilizing the first and second communication ports.

10 51. The network of claim 48, wherein the first communication device comprises an illumination device comprising the shell and the at least one light-emitting device, and the second communication device comprises a charger.

15 52. The network of claim 48, wherein the first communication device comprises an illumination device comprising the shell and the at least one light-emitting device, and the second communication device is not an illumination device.

53. The network of claim 48, wherein the first and second communication devices each comprises the shell and the at least one light-emitting device.

20 54. The network of claim 53, wherein the first communication device functions as a master device, and the second communication device functions as a slave device.

55. The network of claim 48, further comprising a signal communication circuitry external to the first communication device and coupled to the first communication port.

56. The network of claim 48, further comprising a signal communication circuitry external to the second communication device and coupled to the second communication port.

57. A power charger, comprising:
at least one electrode, wherein the at least one electrode forms an electrical connection between a circuit board and an energy source of an illumination device, wherein the illumination device further comprises:

a shell comprising a notch and a plurality of sides, wherein the illumination device can be positioned upon a surface or attached or suspended at any of the plurality of sides, and

at least one light-emitting device within the shell, wherein when the illumination device is positioned upon a surface or attached or suspended at any of the plurality of sides of the shell, light from the at least one light-emitting device emits through each of the plurality of sides of the shell; and

a guide, wherein the notch in the shell engages the guide, wherein when the notch engages the guide, the at least one spring forms the electrical connection between the circuit board and the energy source.

58. A power charger, comprising:

a first arm and a second arm;

a region coupling the first and second arms, wherein the region flexes when a first end of the first arm and a first end of the second arm are moved toward each other;

a first contact at a second end of the first arm distal to the first end of the first arm; and

a second contact at a second end of the second arm distal to the first end of the second arm, wherein the first and second contacts may form an electrical connection between a power source and an illumination device, wherein the illumination device comprises:

a shell comprising a plurality of sides, wherein the illumination device can be positioned upon a surface or attached or suspended at any of the plurality of sides, and

at least one light-emitting device within the shell, wherein when the illumination device is positioned upon a surface or attached or suspended at any of the plurality of sides of the shell, light from the at least one light-emitting device emits through each of the plurality of sides of the shell.

59. The charger of claim 58, wherein the charger further comprises:

a first grip at the first end of the first arm; and

a second grip at the first end of the second arm, wherein the first and second grips facilitate the moving of the first ends of the first and second arms toward each other.

60. The charger of claim 58, wherein the charger further comprises:

teeth at the first ends of the first and second arms for engaging pockets in the shell.

61. The charger of claim 58, wherein the charger further comprises:

a magnet functioning as a switch to turn the device on and off.

62. A method for sealing an illumination device, comprising:

(a) providing a shell comprising at least one light-emitting device within the shell;

(b) placing the shell into a mold;

(c) injecting a material into the mold and to an outer surface of the shell; and

(d) bonding the material with the outer surface of the shell, wherein the bonding seals the illumination device.

63. The method of claim 62, wherein the shell comprises a plurality of coupled parts, wherein the bonding seals the coupling of the plurality of parts.

64. The method of claim 62, wherein the bonding step (c) comprises:

(c1) heating the material, wherein the material chemically bonds with the outer surface of the shell.

65. The method of claim 62, wherein the illumination device comprises:
the shell comprising a plurality of sides, wherein the illumination device can be positioned upon a surface or attached or suspended at any of the plurality of sides; and

the at least one light-emitting device with the shell, wherein when the illumination device is positioned upon a surface or attached or suspended at any of the plurality of sides of the shell, light from the at least one light-emitting device emits through each of the plurality of sides of the

shell.